Registration of 'Alpha' Soybean

'Alpha' soybean [Glycine max (L.) Merr.] (Reg. no. CV-313, P1 566954) was developed by the Minnesota Agricultural Experiment Station. It was released in February 1992 because of its combination of earliness and resistance to soybean cyst nematode (SCN; Heterodera glycines Ichinohe) Race 3 compared with other public cultivars.

Alpha was derived from an F₄ plant from the cross 'Fayette'/ 'McCaly' (1.3). The population was advanced by the single-pod bulk method to the F₉ generation in Chile and Minnesota. The F₉ plants were screened in the field against Race 3 of SCN. F₁ plants were screened in the greenhouse against Race 3 of SCN. Alpha was yield-tested in Minnesota under both SCN infested and noninfested conditions from 1986 through 1991 under the designation MS8-610. It was evaluated in the Regional Soybean Cyst Nematode Test, Group I, from 1988 through 1991 (4). MS8-610 was also evaluated in the Uniform Soybean Tests, Northern States, Uniform Test I, from 1989 through 1991 (6).

Alpha is classified as Group I maturity (relative maturity 1.4), averaging = 2 d earlier than 'Hardin' and = 8 d earlier than 'Bell' (2.5). It is best adapted to latitudes 43° to 46° N. Alpha has an indeterminate growth habit, purple flowers, tawny pubescence, and tan pods at maturity. Seeds are yellow, with yellow hila and intermediate seed coat luster. Under SCN-infested conditions, Alpha exhibited a yield advantage over Hardin of = 23% (4). Under noninfested SCN conditions, Alpha has a yield potential = 9% lower than Hardin (4). Alpha has a slightly poorer lodging score than Hardin (2.7 vs. 2.4 on a scale of 1 = all plants erect to 5 = all plants prostrate). Plant height of Alpha and Hardin are similar. Seeds of Alpha are 12 mg smaller, = 14 g kg⁻¹ higher in protein, and = 9 g kg⁻¹ lower in oil concentration than seeds of Hardin. Seed quality of Alpha and Hardin is similar. Alpha is moderately resistant to iron deficiency chlorosis. Alpha is resistant to Race 3 of SCN deriving its resistance from PI 88788 through Fayette. Alpha is resistant to powdery mildew (caused by Microsphaera phaseolina (Trichoderma phaseola) Cooke & Peck) and brown stem rot (caused by Phialophora italic) (Allington & D.W. Chamberlain) W. Gams). Alpha was released on 15 Feb. 1992 to approved seed growers in Minnesota. Breeder seed of Alpha will be maintained by the Minnesota Agricultural Experiment Station. U.S. plant variety protection for Alpha is pending. Small samples of Alpha for research purposes can be obtained from the Minnesota Agricultural Experiment Station for at least five years by writing to the corresponding author.

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References and Notes
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